

May 28, 2003

MAINE PUBLIC UTILITIES COMMISSION
Mid-Period Review of Central Maine Power
Company's "ARP 2000" Service Quality Indices

BENCH ANALYSIS

I. SUMMARY

The Advisory Staff, by way of this Bench Analysis, provides its preliminary recommendations in this proceeding, the Mid-Period Review of Central Maine Power Company's ARP 2000 Service Quality Index (SQI). Based on its review of the information collected during the collaborative process commenced last September, the Advisory Staff does not recommend changing either the SQI's PUC complaint ratio metric or the customer survey metric. The Advisory Staff is recommending however, that the outage exemption for the two service reliability metrics (CAIDI and SAIFI) and the call center metric be modified from the current service area basis to a company-wide basis. As part of the modification to the exemption provision, the Staff recommends commensurate changes in the CAIDI and SAIFI baselines.

II. BACKGROUND

On November 16, 2000, the Commission approved a Stipulation entered into between Central Maine Power Company (CMP) and the Office of the Public

Advocate (OPA) establishing a new Alternative Rate Plan (ARP 2000) for CMP. *Central Maine Power Company, Request for Approval of Alternative Rate Plan (Post Merger) "ARP 2000"*, Docket No. 99-666, Order Approving Stipulation, (November 16, 2000). Typical of alternative rate plans approved by this Commission, the ARP 2000 plan contains a Service Quality Index, "SQI", to ensure that service is not sacrificed during the ARP to bolster profits. As approved by the Commission, the ARP 2000 SQI contains eight customer service and reliability metrics. Two of the metrics address service reliability: the Customer Average Interruption Duration Index (CAIDI), which is a calculation of the average time required to restore service to the average customer per sustained interruption, and the System Average Interruption Frequency Index (SAIFI) which measures the average frequency of sustained interruptions per customer over a predefined period of time. The ARP 2000 SQI excludes from the two service reliability measures data during outages that affect more than 10% of the customers in any of CMP's 11 service areas.

Five of the other six SQI metrics address the services delivered to CMP's customers: the number of complaints received by the Commission's Consumer Assistance Division, the speed of answering business calls¹ and outage calls, CMP's installation of new services by the date promised, and a customer survey of customers who called CMP's business line. The remaining measure

¹ The SQI also excludes from the business call answering measure data on days when more than 10% of customers in any of CMP's service areas are affected by outages.

addresses the speed of CMP's response to requests to enroll customers with Competitive Electricity Providers.

Under the terms of the Stipulation, ARP 2000 is to be in effect for seven years, from January 1, 2001 through December 31, 2007. The ARP 2000 plan approved by the Commission, however, provides an opportunity for any party to request that the Commission modify the service quality indices during 2003, with the resulting modifications being effective January 1, 2004. The Stipulation specifically targeted two of the initial eight measures for replacement during that process: the customer survey and PUC Complaint Ratio. The Stipulation called for the parties to work collaboratively with the Commission Staff to develop the replacement measure(s) for these two metrics.

The Commission Staff began working with the parties to develop these replacement measures during the Fall of 2002. During the collaborative process, Commission Staff and the parties agreed that these two measures were effectively accomplishing their objectives and should be retained. However, for the reasons set forth below, the Staff is recommending, as part of the Commission's Mid-Period SQI review, that the CAIDI and SAIFI outage exemptions be modified from its current service area basis to a company-wide basis so that outages resulting from non-extraordinary events would no longer be excluded from the CAIDI and SAIFI calculations. As part of its proposal to modify the exemption criteria, Staff believes it is appropriate to modify the CAIDI and

SAIFI baselines to ensure that CMP is not unfairly penalized as a result of the exemption modification.

III. DISCUSSION

A. Operation of the Current Outage Exclusion

Under the Company's ARP I SQI, the service reliability outage exclusion provision exempted all days in which customer outage hours exceeded 0.8 times the number of CMP customer accounts in that month.

Central Maine Power Company, Proposed Increase in Rates, Docket No. 92-345, (Jan. 10, 1995) Order Approving Stipulation, Appendix Attachment G at 2. For example, for a hypothetical base of 500,000 customer accounts, any day with over 400,000 customer-hours of outage would be excluded from the SQI calculation under this mechanism. This threshold was applied on a Company basis.

In the Staff's Bench Analysis in the ARP 2000 proceeding, the Staff stated:

Some catastrophic events (e.g., natural or human-caused disasters) may impair service in areas measured by the SQI, and it is reasonable to create a mechanism that allows a utility to exclude from the SQI effects from those events that are totally outside its ability to influence or control. In determining how

to bound those exclusions, it is important to achieve a balance between what may be outside a utility's direct control and what the utility may be able to reasonably anticipate and mitigate, even if outside its control...With these principles in mind, we propose an approach that, on company-wide, service area, and circuit levels, combines national industry-developed criteria with independent determinations of the severity of an event that rely on characterizations by independent governmental authorities. There are a variety of approaches to determining what constitutes a major event for electric reliability service quality indices. One of the most widely used approaches to defining a major event uses a threshold outage level of 10% of a utility's retail customers, or 10% of a utility's customers in an operating division, to define a major event. Some jurisdictions combine the 10% standard with a second threshold that requires that service restoration will require at least 24 hours. Bench Analysis, Docket No. 99-666 at 118.

The ARP 2000 case was resolved by Stipulation. Under the Stipulation approved by the Commission, when more than 10% of the customers in a service area are affected by outages, all outages occurring in that service area associated with that event are excluded for the duration of that outage from the CAIDI and SAIFI. In addition, these days are also excluded from the "speed of answering business calls" metric. For purposes of the customer service and reliability indices, the service areas are defined as: Augusta, Waterville, Dover, Farmington, Skowhegan, Rockland, Portland, Alfred, Lewiston, Bridgton and Brunswick. The number of customers in each of these service areas and the resulting 10% thresholds are set forth in Table 1.

TABLE 1**Number of Customers by Service Area in 2002 and the Resulting 10%**

<u>Service Area</u>	<u>Customer Count</u>	<u>10%</u>
Alfred	102,224	10,222
Augusta	45,695	4,536
Bridgton	33,477	3,348
Brunswick	65,907	6,591
Dover	21,633	2,163
Farmington	39,227	3,923
Lewiston	52,026	5,203
Portland	101,778	10,178
Rockland	47,859	4,786
Skowhegan	18,192	1,819
Fairfield	31,909	3,175

In its ARP 2000 compliance filings for 2001 and 2002, CMP excluded a total of 66 days in its 11 service territories from the CAIDI and SAIFI metric calculations. Company Filing, Attachment 15 at pg. 2, *Annual Price Change Pursuant to the Alternative Rate Plan (Post Merger) "ARP 2000"*, Docket No. 2002-124. *Annual price Change Pursuant to the Alternative Rate Plan (Post Merger) "ARP 2000"*, Docket No 2003-179. During the five years from 1995 through 1999, CMP excluded a *total* of 20 days from its ARP I CAIDI and SAIFI

calculations.² Thus, three times as many days were excluded during the first two years of ARP 2000 as were excluded during the entire term of ARP I. Table 2 below, sets forth all days excluded during 2001 and 2002 from the service quality measures, as well as the cause of the outage.

TABLE 2

Excluded Days for CAIDI/SAIFI by Cause - # Customers Impacted

	<u>2001</u>	<u>#Cust.</u>	<u>2002</u>	<u>#Cust.</u>
Animal Contact	2	10,336	4	15,324
Auto accident	2	6,915	1	2,272
Customer error	1	3,873	0	0
Crane Contact	0	0	1	6,575
Equipment Failure	2	9,941	3	17,169
Weather Related	19	218,020	27	405,841
Tree Caused	1	3,889	2	10,790
Structure Fire	0	0	1	3,443
Totals	27	252,974	32	461,414

²CMP response to EX-06-08 in Docket No. 99-666.

Table 3 below depicts the outages excluded under CMP's first Alternative Rate Plan (ARP I) that was effective from January 1, 1995 to December 31, 1999.

TABLE 3

Outages Excluded Under ARP I

<u>Date(s)</u>	<u>Cause</u>
10/21/95 & 10/22/95	high winds
11/11/95 & 11/12/95	high winds
11/25/96 & 11/26/96	ice storm
12/8/96	high winds & freezing rain
1/8/98 – 1/19/98 (12 days)	ice storm
<u>8/24/98</u>	<u>tornado/microburst</u>
Total	20 Days

Bench Analysis, Docket No. 99-666 at 116 & 117.

A comparison of Table 1 to Table 2 demonstrates that a significant number of small-scale, non-extraordinary events were excluded during the first two years of ARP 2000 while no such exclusions occurred during ARP I. The reason for this occurrence can be traced back to the outage exemption and not to any increase in extraordinary weather events. In fact, to the contrary, during ARP I, 12 out of the total 20 excluded days were related to the ice storm of '98 while Staff are unaware of any hurricanes, blizzards, tornados or other extra-

ordinary weather events responsible for the 66 days excluded from the CAIDI and SAIFI calculations during the first two years of ARP 2000. The reason that small scale events are being excluded is that under the current exemption, outages affecting as little as 1,800 customers are automatically excluded from the CAIDI and SAIFI calculations.

B. The Operation of the Exclusion Criteria Is Not Consistent with Underlying Policy Objectives

It is Staff's view that the purpose of an outage exclusion is to exclude large-scale, extraordinary events that are beyond a utility's control from the service quality measures since these extraordinary, large-scale events may not be reflected in the data used to establish the baselines. Thus, excluding these events from the service quality calculations ensures a consistent comparison of a utility's performance over time. Small-scale, non-extraordinary events, such as normal weather events (e.g. rain storms), car accidents and animal contacts, are reflected (and should be reflected) in the metric baselines. These non-extraordinary events are occurrences that utilities need to plan for and be prepared to address. A utility's response to non-extraordinary events is a factor that *should* be evaluated as part of an effective service quality index and is in fact what CAIDI is intended to do. Thus, it is important that these types of events are retained in the metrics to effectively evaluate the utility's performance.

We believe that this view is consistent with the Commission's view of the purpose of the outage exemption. In ARP I, the CADI and SAIFI baselines were developed by excluding the "three recent hurricanes" but included "all other weather-related outages." The Stipulation approved by the Commission went on to note that "a method will be developed during the compliance phase of the ARP proceeding that will remove interruptions related to major storms from reported outage data. The baselines will then be revised to reflect averages for non-storm related interruptions."

NYNEX's original Alternative Form of Ratemaking (AFOR), did not have an outage exemption (nor does it in its current AFOR). In that case, the Commission found that:

NYNEX ... proposed to exclude from the SQL 'events beyond the Company's control,' including 'major catastrophe, acts of sabotage, fires, severe flooding, strikes against the Company or entities other than NYNEX, its parents or affiliates, and major plant or equipment damage done by third parties. ... NYNEX ... admitted, however, that prudent management and planning could ameliorate the consequences of some [catastrophic] events. ... Moreover, unusual, and possibly even 'catastrophic' events will be included in the 3-year data that serve as the baseline. . . . We will not, therefore, exempt 'catastrophes' or other events that NYNEX considers significant from our SQL. On a case-by-case basis we will consider any major event that causes a very substantial drop in quality below the SQL and that was beyond NYNEX's ability to anticipate. If NYNEX makes a compelling demonstration that the effects of a particular significant major event should not be included in the SQL for that year, because it could not be foreseen and its effects could not be anticipated, we will

consider a request for exemption. Order, Docket No. 94-123, at 83.

Public Utilities Commission, Investigation into Regulatory Alternatives for the New England Telephone and Telegraph Company d/b/a NYNEX, Docket No. 94-123 (May 15, 1995) Order at 83.

In contrast to the ARP I SQI, which excluded only major storms, and to the NYNEX AFOR, which does not even automatically exclude "catastrophic events," the ARP 2000 exemption is excluding such events as outages caused by squirrels, tree contacts and auto accidents. By doing so, the effectiveness of the CAIDI and SAIFI metrics, as tools to measure service reliability, have been greatly compromised.

C. Staff's Exclusion Recommendation

The Mid-Period review component of the ARP 2000 plan provides that:

"On or before June 1, 2003, any party may request that the Commission modify CMP's service quality indices to be effective January 1, 2003. The Service Quality Indicators will have the presumption of correctness and any party seeking to modify or add to any of the Service Quality Indicators will have the burden of proving that the modification or addition is reasonable and appropriate."

As the current exemption is inconsistent with the policy objectives underlying the inclusion of an exemption provision, Staff recommends, pursuant to the Mid-Period review provision of the Commission Order implementing ARP 2000, that the outage exclusion provision of the SQI be modified in such a manner as to only exclude major events affecting CMP's distribution system.

The Staff acknowledges that it was at least partly in response to Staff's suggestion that the service-area based outage exemption was included as part of the ARP 2000 SQI. While in theory, excluding outages by service area has some merit, in operation, given the number of small service areas in Maine, the current exemption criteria is simply not meeting the objectives of including an outage exemption - ensuring that the utility is not penalized for extraordinary events beyond its control which are generally not captured in the baseline metrics while at the same time ensuring that the utility maintains its system in a cost effective manner that minimizes the number of outages and also minimizes the duration of such outages. The ARP 2000 plan includes a mid-period service quality review provision to address situations such as the operation of the current outage exclusion. In making this proposal, Staff does not intend to "raise the bar" on CMP or to unfairly penalize CMP should it maintain reasonable and adequate service. Therefore, as part of its proposal to modify the outage exemption, the Staff is also recommending that the CAIDI and SAIFI baselines be modified so that CMP essentially is held harmless by the change in the exemption criteria.

Specifically, Staff recommends that the outage exclusion component of ARP 2000 be modified to allow any day in which at least 10% of all CMP's customers are experiencing an outage simultaneously to be excluded from the CAIDI, SAIFI, and call center service quality measures. For any day in which the 10% exclusion threshold is reached, all outages occurring during that 24-hour period will be exempted. Outages that occur on days when the 10% threshold is not met, even if the outages are associated with events that have exceeded 10% threshold on preceding or following days, will not be excluded. In addition, 10% of all CMP's customers must be out simultaneously to meet the threshold. Days in which multiple events occur where cumulatively, the events meet the 10% threshold, but do not at any one-time meet the 10% threshold, will not be excluded.

This recommendation increases the number of customers that must experience an outage to meet the exclusion threshold and is more restrictive regarding the number of days that can be excluded in association with a particular event. With the recommended outage exclusion criteria, an outage would need to impact approximately 55,000 customers³ to be excluded, as opposed to the current exclusion criterion that allows an exclusion when approximately 1,800 to 10,168 customers are impacted by an outage.⁴

³ This number represents 10% of CMP's total customer base (559,792) as reported in CMP's 2002 Annual Report filed with the Commission.

Increasing the number of customers that must experience an outage to meet the exclusion threshold ensures that only large-scale, extraordinary events are excluded from the CAIDI, SAIFI, and call center metrics. We believe that this proposed modification outage exclusion is consistent with the Commission's policy on outage exclusions.

In addition, Staff believes that the recommended outage exclusion is also much more consistent with other states' outage exclusions and with industry standards. For example Maryland defines a "major event" as any time period when more than 10% of a utility's customers are without service and restoration of these customers takes more than 24 hours. COMAR Title 20, Subtitle 50, Chapter 7, Regulation 6, April 15, 2002. Pennsylvania defines a major event as either an interruption of electric service resulting from conditions beyond the control of the electric distribution company which affects at least 10% of the customers in an operating area during the course of the event for a duration of 5 minutes each or greater, or an unscheduled interruption of electric service resulting from an action taken by an electric distribution company to maintain the adequacy and security of the electrical system, including emergency load control, emergency switching and energy conservation procedures. When one operating area of a distribution utility is affected by a major event, data from all operating areas affected by the event is excluded. Major events are excluded from performance indices but are included in the reporting of all service interruptions.

⁴ These numbers represent 10% of the customers in CMP's smallest

52 PA Code Sec 57.192. California defines a major outage as one which 10% of a utility's customers experience a simultaneous, non-momentary interruption of service. For utilities with less than 150,000 customers, the threshold level for a major outage is 50% of the utility's customers. *Standards for Operation, Reliability and Safety During Emergencies and Disasters*, CAGO 166, May 4, 2000. Reliability indices are reported with and without major outages included.

The recommended outage exclusion is also consistent with IEEE's standard for a "major event." IEEE defines a "major event" as "[a] catastrophic event that exceeds design limits of the electric power system and that is characterized by the following:

- A) Extensive damage to the electric system;
- B) More than a specified percentage of customers simultaneously out of service; and
- C) Service restoration times longer than specified.

Some examples are extreme weather, such as a one in five year event, or earthquakes.⁵

As noted previously, it is not our objective to "raise the bar" for the outage exclusion in the midst of the ARP. Rather, our objective is to correct a component of the ARP that is not working as intended – consistent with the intent of the mid-period review. Thus, we are also recommending changes to the

service territory (Skowhegan) and its largest service territory (Alfred).

CAIDI and SAIFI baselines. In reviewing the data provided by CMP during the collaborative, it appears that the current CAIDI and SAIFI baselines were based on the Company's worst performance during the 1995-1999 period with the current 10% service area outage exclusion. The Staff recommends that the CAIDI and SAIFI baselines be recalculated utilizing the same methodology (worst annual performance during the 1995 through 1999 five-year period) using Staff's proposed outage exclusion. Since Staff does not have all the necessary data to perform this calculation at this time, the Staff requests that CMP, as part of its reply filing in this case, provide the recalculated metric with the year by year performance data. Although the call center metric also contains an outage exclusion, the Staff does not believe it is necessary to recalculate the call center metric at this time, since this metric was developed based on industry-wide standards, was not based on data excluding storm outages, and in Staff's view, remains readily achievable with the new exclusion.

IV. CONCLUSION

Staff believes that for the most part, CMP's ARP 2000 is operating as intended. However, the outage exclusion contained in ARP 2000 is allowing non-extraordinary, small-scale events to be excluded. Staff recommends that the outage exclusion component of ARP 2000 be modified to exclude any day in which at least 10% of all CMP's customers are experiencing an outage

⁵ IEEE Std 1366-1998.

simultaneously from the CAIDI, SAIFI, and call center service quality measures to exclude small-scale, non-extraordinary events.

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